

REMARKS/ARGUMENTS

Examiner Rachuba is thanked for her thorough examination of the subject Patent Application. The claims have been carefully reviewed and amended in response to the Examiner's kind suggestions, allowance of the Patent Application is therefore respectfully requested.

Reconsideration of the rejection of Claims 2, 3, 5, 8, 20, 21, 23, and 26 under 35 U.S.C., 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, is requested, in light of the following arguments.

Claims 2, 3, 5, 8, 20, 21, 23, and 26 have been amended in response to the Examiner's kind suggestions. Claim 9 has been cancelled.

Briefly, applicants wish to point out the major features of their invention which is a novel apparatus for use with a chemical mechanical polishing tool to planarize irregular topology on semiconductor substrate surfaces. The apparatus includes a slurry dispensing manifold. The manifold has a linear array of nozzles positioned under a suspended manifold. Each nozzle provides an adjustable slurry mixture that is supplied from bifurcated supply lines. A first branch supplying a slurry, and a second branch supplying deionized water. Each nozzle is capable of providing a particular slurry concentration to either decrease or to increase polishing rate in specific zonal areas on a

substrate according to its surface topology.

Reconsideration for the allowance of Claims 1-4, 19-23 and 27 under 35 U.S.C. 103(a) as being unpatentable over Chiou, et al '627 in view of Kawashima '849, is requested, in light of the following arguments.

Chiou, et al. teaches a slurry dispensing “U” shaped conduit having a delivery conduit containing an array of nozzles supplying a fixed concentration of slurry through adjustable nozzle openings and a return conduit. However, as the Examiner noted, Chiou does not use bifurcated lines to change the concentration of the slurry. Kawashima, on the other hand, teaches means to control the precipitation of solutes for the purpose of supplying a stock solution to a dilution solution supply source for containing a dilution solution, a mixing solution supply line to formulate the polishing solution. The mixing section being hermetically sealed to exclude atmosphere, and one or more delivery lines to deliver the polishing solution to the polishing section.

Although, Chiou and Kawashima are directed towards remotely similar applications, it is respectfully suggested that the combination of these references cannot be made without reference to Applicant's own invention. None of the references address the problem of planarizing substrates having irregular topology. Applicant teaches an apparatus and method for adjusting each nozzle to provide a particular slurry concentration to either decrease or to increase polishing rate in specific zonal areas on a substrate according to its surface topology, and doing it in real time during planarization.

The apparatus of FIGs. 2 - 4 and Claims 1-8 and 19-26 are believed to be novel and patentable over these various references, because there is not sufficient basis for concluding that the combination of claimed elements would have been obvious to one skilled in the art. That is to say, there must be something in the prior art or line of reasoning to suggest that the combination of these remote applications is desirable or evident to one involved with planarizing substrates having irregular topology . We believe that there is no such basis for the combination. We therefore request Examiner Rachuba to reconsider her rejection in view of these arguments and the amendments to the claims.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

By  _____

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